THE MOTOR AGE

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LEADING CONTENTS

PAGE

Price of Gasolene Advancing.—Speculations in France on the danger threatening the motor vehicle industry from a gasolene famine and the monopoly of petroleum producers. . . 161

License for Steam Vehicle Drivers.—New York and Washington hold license necessary in law but favor issuance of it to owners proving their capability. 163

Voice From the Carriage Industry.—Carriage builders hold light minded views on the effect of automobilism on their craft. . . 164

The Baldwin Steam Vehicle.—Satisfactory results in a road test. 165

Stylish English Voiturette.—Description of a vehicle embodying several new features (illustrated). 167

The Constructor's Hard Work. . . . 168

Commissary Wagons in Africa.—Details of French experiment on a large scale. . . 169

Automobile Club's Parade.—A fashionable event in New York. 172

PAGE

Teaching the Public to Drive.—Company in Boston undertakes to teach its patrons how to drive. Other Boston news. 171

Motoring Not for the Lazy.—Mental strain of directing a motocycle over rough roads is fatiguing. 173

Ordinance to Open All Parks.—Squabble over admittance to Central Park, New York, results temporarily in favor of automobilists. 175

Vehicle Tests by Clubs.—Certificates of performances issued by the Automobile Club of England. 176

Inventors and Capitalists.—Capable mechanics, whose inventions are not fully developed, forced to plod along with scant means. . . 178

When Willard Was Stalled, p. 170. Bold Designs for Trophies (illustrated), p. 170. The Sport in Philadelphia, p. 177. New Multi-Million Company, p. 177. Saved by Light of Automobiles, p. 177. One-Way Steering Lever (illustrated), p. 179. Motor and Vehicle Speed, p. 180.

PRICE OF GASOLENE ADVANCING

SPECULATIONS ON THE DANGER THREATENING THE MOTOR VEHICLE INDUSTRY FROM A GASOLENE FAMINE AND THE MONOPOLY OF PETROLEUM PRODUCERS.

A flurry of anxious misgivings swept over France a few weeks ago when the refiners of "essence" or gasolene announced that the price of this fluid would be raised five centimes per litre on and after October 1. Would this be followed by further advances in the future as the consumption of gasolene for motor vehicle purpose increased? Was it a stab at the gasolene motor and the liquid fuel steam motor engineered by American companies in favor of electricity for motive power? Speculations on the possibilities ran wild in the French publications. Now it has subsided somewhat, but still gloomy forebodings are common. Even conservative engineers think it the part of wisdom to look around for a substitute for gasolene, some fluid which while perhaps not equal to gasolene in thermal units may possess other advantages in compensation and the use of which in

motor vehicles may be flaunted in the face of gasolene refiners and petroleum producers as a warning serving to check a too-unblushing greed for profits from the petroleum product.

Warning From French Engineer.

Gustave Chauveau writes in the Chauffeur on this subject: "From October 1," he says, "the refiners have raised the price of gasolene five centimes per litre. This step was inevitable, and it is even surprising that it was not taken much earlier.

"The petroleum production is in the hands of powerful syndicates that may regulate the price of this substance so much more easily—and naturally in their own favor—as the consumption grows much more rapidly than the production, the discoveries of new oil strata becoming daily more rare and the old wells gradually being exhausted. This applies especially to the American petroleums, from which the greater part of our 'essence' is distilled.

"From this condition it was only natural to expect an advance in prices; it has been small, to be true, but 'it is the first step that costs.' * * *

"Now, there will probably be no halting on the fatal incline and there is ground for expecting in a near future further advances, especially as, singularly enough, the "essence" is less expensive in France than with our neighbors.

Economy Eventually Important.

"As the price of the power unit is, after all, spite of contrary opinions, among the most important considerations—if not for pleasure driving at least for that infinite majority of other vehicle purposes which in importance overshadow the pleasure carriage—the situation presents a very grave aspect.

"Another thing is to our mind still more serious—a gasolene famine. Since the past season the principal refiners have been unable to supply the demand. And what is, after all, the number of motor vehicles of the present day in comparison with the multitude that there is reason to expect before long? Surely the future holds possibilities that should be met in advance, and the situation certainly must instill new hopes in those who favor electric or steam vehicles, although the troubles confronting the gasolene vehicle nowise correct the defects of vehicles of other types; and the real remedy for the situation created for gasolene motor power must be sought in the development of a fluid which is adapted to supplant gasolene.

The German Policy.

"Alcohol seems to offer the most obvious escape. It has already been employed with respectable results. Is the problem, though difficult, not eventually solvable? Think of the advantages of using a fluid which is non-odorous, easy to procure, and, above all, which may be produced by home industry.

"The importance of employing a fluid which may be produced in unlimited quantity at home, is in reality indisputable and the Germans understand this so well that they favor with all their might all rational experiments aiming toward the application of alcohol for illuminating purposes as well as for heating and motor power. The price is too high, somebody will object. But, the cause of the high price of alcohol is not intrinsic but depends everywhere on mere taxation. The remedy, therefore, lies close to the evil.

"When the technical obstacles shall have been removed, so many fundamental interests will be at stake that a considerable lowering of internal revenue taxes will follow as a matter of course."

"Work, therefore, ye inventors, work with alcohol—unless you possess the secret of some fluid still more advantageous. And my best wishes will accompany you for your own sake as well as for that of the industry."

LICENSE FOR STEAM VEHICLE DRIVERS

NEW YORK AND WASHINGTON HOLD LICENSE NECESSARY IN LAW BUT FAVOR ISSUANCE OF IT TO OWNERS PROVING THEIR CAPABILITY.

Since the police board of New York city, as reported in last week's issue of The Motor Age, passed a rule requiring licensed engineers for driving steam vehicles—with special reference to the parade of the Automobile Club on November 4—this question of restrictions upon steam vehicle travel has become a leading one.

In the District of Columbia the question was forced to a decision through an inquiry from G. Edmonson of 805 Eleventh street, N. W., Washington, D. C., to the District Commissioners. Mr. Edmonson explained that he contemplated to buy a steam vehicle which is practically noiseless and he desired to know whether, in the event of his purchase of it, he would be required to employ a licensed steam engineer if he should learn to operate it before purchasing it.

Governed By Existing Regulations.

The Commissioners first referred the matter to the board of examiners of steam engineers, and the board reported that in its opinion no one but a licensed steam engineer should be allowed to operate the motor vehicle. Next the matter was referred to the superintendent of the water department, for advice as to whether there exists any practical necessity for a licensed or other engineer on the vehicle. In his report W. A. McFarland, the superintendent of the water department, explained that the motive power of the vehicle in question consists of a gasolene burner, a small vertical boiler with a large number of flues, and a pair of small vertical engines, driving a shaft and sprocket wheel, and, by means of a sprocket chain, the rear axle of the vehicle. He further explained that the apparatus is simply an ordinary steam boiler and engine, and, as such, would no doubt be governed by existing regulations restricting the use of such power.

No Practical Necessity for License.

At the same time, Mr. McFarland said he does not believe there is any practical necessity for requiring the employment of a regular licensed engineer. The boiler is, he stated, of excessive strength, and it is claimed that the burning of the boiler resulting from low water causes only an elongation of the tubes and consequent leakage through the lower crown sheet. This claim, said Mr. McFarland, seems to be supported by an accident which occurred to a motor belonging to a Mr. Foster. The flow of gasolene to the burner being automatically controlled by pressure in the boiler, Mr. McFarland said some knowledge of the properties of steam and of gasolene should certainly be required to operate these vehicles.

The commissioners disposed of the matter by adopting the following recommendations, made by Commissioner Wight: "About two years ago, if I remember correctly, the Commissioners received an application for permission to run a horseless vehicle operated by gasolene, which permission they declined to grant, on the ground that the machinery was likely to make so much noise as to frighten horses. I do not know that this machinery would so operate, but it should be known before permission is granted. So far as having a licensed engineer is concerned, I would suggest that after Mr. Edmunson has learned to operate the machine he might himself become licensed, the only expense involved being a fee of $3."

Legal Status Varies By States.

The laws referring to operation of steam engines vary in the different states, and it is therefore not possible at the present moment to present the legal aspect of the case in a manner that would apply to all states alike. There are many states in which anybody may operate steam engines whether stationary or transportable. In other states, where the organization of stationary engineers is strong politically, a licensed engineer is required to operate stationary engines but the laws are so framed as not to interfere with the rights of railway com-

panies to employ anybody whom they deem capable to run locomotive engines. The fact that locomotive engines are all operated on and within the property of each railroad company and that these companies are bound by self-interest to employ only such men as have demonstrated their capacity and served an apprenticeship as firemen, is supposed to have been considered by the legislatures when the restrictions imposed were limited in their application to stationary engines. But motor vehicles were not then contemplated; and it was considered a hardship if similar restrictions were placed upon the operation of tractor engines used with threshing machines.

The appearance of the steam pleasure vehicle puts a new phase on the question in the states where the present legislation is of this character and it seems as yet doubtful whether the rules applying to stationary engines in these states may be applied to steam vehicles on the plea that there exists a similarity of reasons for imposing restrictions. It is argued that licensed engineers for stationary engines are required as a measure of protection for those who pass in and out of the buildings where the engines are operated and those who pass in the streets adjacent to such buildings, and that the same degree of protection should be required in the case of steam motor vehicles which habitually travel in the public streets and highways. Another parallel is drawn from the rules pertaining to water craft, it being the general rule that steam engines used for their propulsion must be in charge of licensed engineers.

VOICE FROM THE CARRIAGE INDUSTRY

WITH GAZE FIXED ON SHORTCOMINGS OF ELECTRIC VEHICLES AND OVERLOOKING TECHNICAL ADVANCEMENT IN PRIME MOTORS, CARRIAGE BUILDERS HOLD LIGHT-MINDED VIEWS ON THE EFFECT OF AUTOMOBILISM FOR THEIR CRAFT.

"Axle men are not worried about the introduction of automobiles," said W. F. Black at the Hoffman House last evening. Mr. Black lives in Columbus, O., and is connected with several of the largest axle manufacturing concerns in the country. "Anything that teaches people to ride ultimately accrues to our advantage. When bicycles first became the rage they damaged the carriage business considerably for the first year, reducing the number of vehicles sold about 200,000. The next year, however, business was better than it ever had been before. You see, the bicycles had taught thousands of people to despise walking, and they promptly bought horses. Horses, of course, meant carriages, and carriages meant axles, and so we had as much to do as we could well attend to. And now comes the automobile, teaching more people to ride. I do not think the automobile will ever interfere materially with our business. It is not practicable, and is therefore a fad. Its real commercial value depends upon the degree to which it can be made to replace the drays, the delivery wagons and the farm wagons. This degree, it must be acknowledged, is very limited, and for that reason the carriage men do not fear the overthrow of their business. When you consider that there are 1,250,000 vehicles in the United States drawn by horses, and not more than 5,000 automobiles, you can easily see that these few electric conveyances cannot seriously inconvenience the great carriage industry. I have heard it estimated that in France, where the automobile is supposed to have attained the highest degree of efficiency, there are only 6,000 electric vehicls, whereas there are over 600,000 vehicles drawn by horses."—New York Tribune.

Not Worried But Thinking Fast.

This may be a case of whistling to keep the courage up, but it would be more effective if the figures and "facts" were kept in some proximity to the true situation. Nobody believes that it was the bicycle which caused the drop in vehicle sales referred to; neither was the subsequent increase to be traced to any army of disgusted cyclists. It was chiefly a case of financial depression followed by financial revival among the agricultural class of the population. "And now comes the automobile and teaches more people to ride." It is to be feared that riding and driving depend more on the condition

of the excehquer and one's occupation in life than upon teaching, and from present data it seems that those who buy motor vehicles are almost exclusively recruited from the ranks of those who previously used horses. And their number in United States is far from reaching 5,000 as yet —1,000 would be an ample allowance. But it is not their present number that the carriage industry should consider. The germ of future growth is there, and the only security for the carriage industry lies in a policy of emulating it and making it a part of its own organism. And that is precisely what the most far-seeing carriage manufacturers are preparing to do. The authority quoted in the above reprint falls into error by fixing his gaze upon the electric motor vehicle and identifying it with the motor vehicle in general. France has neither 6,000 nor 600 electric vehicles, but owes her strength in the motor vehicle industry solely to the gasolene motor, upon the progressive development of which the motor vehicle industry in United States also depends. Were there only electric vehicles to look forward to the carriage industry might feel as justifiably safe at its moorings as Mr. Black believes it is, but gasolene and steam are the agencies which threaten a very serious invasion "to replace the drays, the delivery wagons and the farm wagons" of the present era; and the sooner the carriage industry realizes that this threatened invasion is most likely to be sudden and impetuous, the better it will fare commercially.

Already the fortresses of the old vehicle industry are undermined by the technical advancement that has taken place in gasolene and steam motor construction and whether the mines shall be exploded in favor of the present leaders in carriage manufacture or against them, will depend upon the readiness with which these manufacturers choose to identify their capital with that which will be organized to exploit the motor vehicle movement. If they hold aloof dry rot is likely to attack their large establishments, but if they embrace the opportunity which the new movement offers and support it in a conservative manner, as the most prominent French carriage builders have done, they have undoubtedly an excellent chance for skimming the cream of automobilism. Several of them are casting anchors to windward but seem to be somewhat biased in favor of electric vehicle manufacture from the fact that this type has been considered—however unjustly—as reconcilable with that class of carriage work for which the old style carriage builders possess the facilities. They might with better justification turn their eyes in the direction of the motor tractor and help to develop tractor construction to the point where the tractor may take the place of the horse while leaving the carriage drawn by it essentially as it is today.

THE BALDWIN STEAM VEHICLE

Providence, R. I., Nov. 4.—This week the first steam carriage manufactured by the Baldwin Automobile Company of this city had a successful test on the road and its designer, L. F. N. Baldwin states that it more than met his best expectations. Steam seems to be gaining friends in this section and the advent of the Baldwin carriage has been hailed with delight.

The usual shop tests proved that the mechanism was suitable for the work and the road trial bore out the shop tests in every particular, the carriage developing all the speed expected and climbing hills with ease, without too great reduction in pressure. The carriage was built in the Cruikshank engine shop of which Mr. Baldwin is superintendent. In general appearance it is like other wagons, but of heavier construction. The weight is 750 pounds. The seats are arranged dos-a-dos. The boiler is under the seats and, like the engine, is enclosed. The boiler is tested to 1,000 pounds and the

working pressure is but 100 to 125 pounds. The engine is of the upright, two-cylinder type, weighing from 38 to 40 pounds and is designed to develop four horse power. The speed can be varied from 3 to 25 miles an hour on ordinary roads. The engine cylinder castings are of silicon bronze with a hard cast lining. The steel pistons are cone-shaped with double steel packing rings. The engine is fitted with nickel steel valves and valve surfaces. The cylinders are steam jacketed. The exhaust steam is led to a combined muffler condenser and feed water heater and thence to the water tank. Under heavy load the surplus steam taken care of by this means goes to a patent two-chambered bonnet over the boiler tubes. The bonnet has copper plates which, being heated, deliver the waste steam "at the exit in the form of warm, invisible gases."

The water from condensation passes through a copper coil in the gasolene tank, thus slightly vaporizing the fuel. The resulting pressure feeds the burner. Then the water is ready for expansion again.

All bearing surfaces are large and provision for adjustment is made. The machinery, besides being enclosed for protection against dust and dirt, is carried on springs. The power transmission from the engine shaft is by the well-tried chain and sprockets. A simple equalizing gear is fitted to the driving shaft.

The patented burner uses either gasolene or kerosene, the size of the flame being automatically controlled by the steam pressure. The wheels are of the wide-hub, tangent pattern, 36 inches rear, 34 front with pneumatic tires. Two band brakes are controlled by a foot lever.

The runabout carriage has plain lines and is intended for the use of business and professional men. The general description of the machinery above noted applies to the runabout. The wheels, however, are 28 inches in diameter.

Horatio Fraser is president of the company; Chester I. Campbell, for many years connected with the Providence bicycle trade, is secretary and general selling agent; Mr. Baldwin is superintendent. They intend to place their carriages on the market during the winter, manufacturing the machinery and bodies at Providence. In addition to the pleasure carriages, delivery wagons will be built.

VOTE OF CARRIAGE BUILDERS

The Motor Age is in receipt of reliable information to the effect that the National Carriage Builders' Association convened in Indianapolis did not vote to exclude manufacturers of automobiles and automobile parts from membership, as stated from telegraphic reports in this and many other journals, but on the contrary voted to accept them on even terms with members of the older guild.

The carriage builders stand thus acquitted of the incredible folly that it would have been for them to exclude themselves from the benefits of the motor vehicle movement, to which they, more than any other one class, are the legitimate heirs.

NEW ENGLISH PERIODICAL

The Motor Car World is an English monthly publication which has made its first appearance this month. It is a continuation of the motor vehicle supplement heretofore published in The Scottish Cyclist. The first number is given over to elementary articles on construction and operation of gasolene motor vehicles. One of the features is a review of articles from other motor vehicle journals.

CAPACITY OF DELIVERY WAGONS

Experience with delivery wagons used by the great department stores in Paris is said to have proved that, in order to produce good commercial results, these motor vehicles must be capable of carrying a pay load of at least 2,640 pounds.

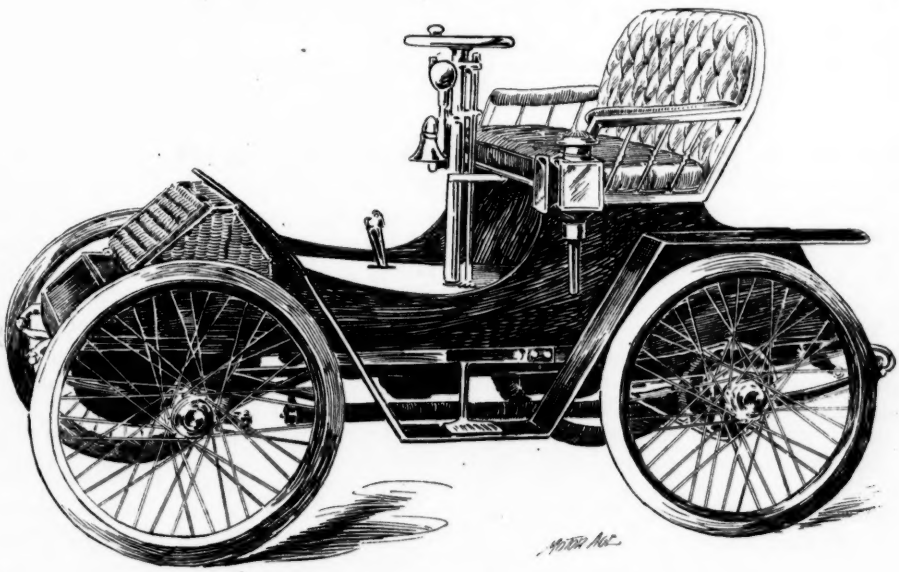
Fred Jacob, a bicycle repairman of Napa, Cal., has built a gasolene motor vehicle, which is locally announced as a success.

Quick & Co., of Paterson, N. J., heretofore bicycle manufacturers, will build automobiles.

STYLISH ENGLISH VOITURETTE

THE ARCHITECTURE OF FOREIGN AND HOME PRODUCTS.—DESCRIPTION OF A VEHICLE EMBODYING SEVERAL NEW FEATURES.

The outlines of the light gasolene car for two people which is illustrated herewith, and on the front cover, at once proclaim the vehicle one of foreign build. As most other French or English motor vehicles it is interesting to our public by reason of its general architecture, more than by the motor mechanism which may or may not be adapted to our conditions. In architecture—or design, as it is commonly called—European builders are advancing to a higher degree of originality and freedom from the traditional carriage styles than our own. Their carriages make better pictures than American vehicles and, in a measure, forecast the variety in style that will be seen here in course of time.



THE ACCLES-TURRELL—AN ATTRACTIVE LIGHT VEHICLE DESIGN.

Description of the Accles-Turrell.

The particular car illustrated is English and is named the Accles-Turrell. It weighs 900 lbs. in which total the motor represents 210 lbs. This motor is of the single cylinder type, and horizontally placed with the motor facing forward. That is to say, the outward stroke takes place in the same direction as the car proceeds. The driving axle protrudes from both sides of the crank case. On one side is the fly-wheel, and on the other the fast and loose pulleys. These are connected by a long belt to a pulley connected with the three-speed gear, which is contained in an oil-tight casing, which also holds the reverse gear. The three speeds are nominally three and a half, ten, and twelve miles an hour, while the reverse gives four. The gear consists of toothed wheels always in mesh, the change being effected in a very ingenious manner by means of a special grooved sleeve and spring key. The Autocar, describing its construction and traveling qualities says that change of speed with this special construction is effected with the greatest ease, and absolutely without

any shock to the occupants of the car, and with so little noise that it would not be noticed unless one were carefully watching for it. The long belt which connects the engine with the gear pulley is kept up to its work by a jockey, which is held on to the belt by a spring of suitable length. When it is desired to release the belt for over-running, a pedal is depressed. Further than this, there is a second jockey which can be used for belt tightening. This, of course, requires adjustment against the belt by means of a spanner when it is found that the operation is desirable. In consequence, a very long period of running can be indulged in before it is necessary to shorten the belt. The electric ignition also calls for special mention. Its main feature is that no high tension current is used, so that if any short circuiting should occur at any time it is not sufficiently serious to prevent an adequate spark being maintained. The contact breaker takes the form of a vulcanite roller with a metal inlay across its face. The advance or delay of the spark is arranged for by the fact that the contact point can be shifted laterally along the roller, and as the metal insertion in this is placed diagonally across its face, it will be seen that as the pointer is shifted so the time of ignition is altered. The cell is of special type with woven glass to hold up the plates, and the makers state it has been found extremely satisfactory during protracted use.

THE CONSTRUCTOR'S HARD WORK

There is a bicycle firm located not more than a million miles from the Motor Age office which is experimenting in a businesslike manner with the automobile problem. The largest stockholder is not actively engaged in the business while the next largest is the mechanical man and manager of the concern. The latter recently made a trip to Europe to post himself on the motocycle problem, and, while away, bought a motor tricycle. A representative of the Motor Age called on him a month after his return.

After enlarging on the pleasure he had derived from the use of the tricycle and the trailing cart which he imported with it, he said, "I want to take you out for a trip but I don't know when I can. You see I let Mr. B."—the large stockholder—"take the tricycle and it seems impossible to get it back. He borrowed it for use over one Sunday and he has now had it two weeks and still is not ready to give it up.

"Mr. B.," he continued, "has a fine big, black pacer of which he is very proud. The first Sunday that I had my tricycle here, we agreed to go out together for a spin, he behind his pacer and I on my tricycle. Well, we started. For a while I could see him if I twisted my neck enough, but, after awhile, I could not see him at all. We had agreed to make a circuit of two of the parks. I made the circuit and Mr. B. says he did. I don't know. What I do know is that I waited and waited for him until I had about given him up and then he hove in sight. He is usually a good natured man but he was mad that day. His horse is usually white but it was black that day.

"He promised me that he would never again take his horse out in company with an automobile. He thinks a great deal of that horse and is very proud of it but not so proud now as he was. He was angry with his horse for not keeping up and he was angry with himself for driving his horse so hard. Now he says to go ahead and build all the motocycles that I can.

"It is easy enough to say 'build' but it is a difficult task to do it. There are patents on all sorts of motocycle construction. They are not broad patents and it is not difficult to find other means to accomplish the same result that is accomplished through the aid of any one patent but when it comes to the problem of finding substitutes for twenty or thirty of them, which apply to one or another part

of a single engine, then it is, indeed, a difficult task. I am going to construct a good practical vehicle that will do all that the best of the foreign ones will but it will take me a long time, despite the fact that I have a shop full of skilled mechanics.

"I spend all day Sunday making drawings at home. On Monday I bring them down to the office. On Tuesday I look them over. Wednesday, Thursday and Friday I think about them, and on Saturday I tear them up. It is cheaper to tear up the drawings than it is to burn up the patterns or to throw away a half constructed vehicle. On Sunday I begin all over again. Some day I will get it right and when I build a vehicle I will build something. Some of these automobile inventors build vehicles and when they are done they have nothing. A motocycle is an engine, not a toy like a bicycle. It takes an engineer, and a good one, to make it."

COMMISSARY WAGONS IN AFRICA

DETAILS OF FRENCH EXPERIMENT ON LARGE SCALE WITH MOTOR VEHICLES DESIGNED FOR PROVISIONING MILITARY OUTPOSTS IN THE DARK CONTINENT AND FOR MAIL AND PASSENGER SERVICE.

At the French Trials of Heavyweight Vehicles (Concours des Poids Lourds), held in 1898, the project was formed by Felix Dubois to utilize motor vehicles in the French Soudan for provisioning the military stations between the Senegal and Niger rivers. This project is now being realized, says La France Automobile. It involves the establishment of a regular automobile service over the distance of 186 miles that separates Toukoto from Bamakou, and Mr. Dubois departs on November 4 for the Soudan in order to organize this service. He takes with him Captain Ostermann, who was previously in charge of the commissary department for this region while the Lefevre wagons were used, and consequently knows the district thoroughly. The expedition comprises also two "contremaitres" and eight mechanics, besides an administrative force of seven persons. The wagon train consists of fifty motor trucks of the De Dietrich manufacture, each of 9 to 10-horse power, and these have already been shipped by boat to Saint-Louis, together with a special tank containing one million litres of gasolene.

Repair Station to Be Built.

Out of these fifty vehicles five are designed to be used for passenger transportation, and there is in addition a motor omnibus which is intended for mail service. From Saint-Louis, where the expedition will arrive on November 11, the whole vehicle equipment will be sent to Kayes by river navigation and from Kayes the railroad will take it to Toukoto. At the latter place several shops and smithies will be established and fitted to take care of all necessary repairs.

As soon as the first lot of ten vehicles have been mounted Mr. Dubois will conduct them to Bamakou and will install gasolene depots along the route. Subsequently when the line shall be in regular operation the motor vehicles will carry the necessary provisions to the military stations and also the merchandise that is to be conveyed to the interior. On the return trips the loads will consist of the native products, rubber, cotton, and ivory.

Chinese Drivers Preferred.

A singular feature of the expedition is that Chinese have been engaged to drive the vehicles, being found more painstaking than the negroes and not so much inclined to—drink the gasolene. These Chinese arrived in due time in Bordeaux and have already departed for Bamakou, and thus it is noted as one of the peculiar results of the motor vehicle movement that it causes an invasion by the yellow race to the dark continent.

WHEN WILLARD WAS STALLED

E. T. Willard, the inventor of the Willard storage battery that is so much used in the construction of electric automobiles, is a man of expedients, as a story which he tells on himself, will show.

It appears that Mr. Willard had undertaken to make a trip in an electric vehicle, from Cleveland to Akron, Ohio, a distance of thirty-three miles. If it had not been for the fact that the two cities were connected by a trolley line, this story might be different—or the trip never undertaken. Mr. Willard, however, is a practical man and knew what the capabilities of his batteries and his vehicle were and was not unprepared for emergencies. Within seven miles of Akron his current gave out. Of course there was no charging station at hand and Mr. Willard then was obliged to resort to his knowledge of matters electrical and to make use of his previously provided apparatus for emergencies. With the automobile close beside the trolley road, he climbed out, took from its concealment a jointed fish rod. To the business end of the pole he attached a metal hook, which, in turn, was attached to a wire. By this means he was enabled to —shall we say steal?—the amount of current necessary to carry him to the end of his trip and to roll into Akron with an ample supply of power, if not in the quickest time. Of course he did not care to be caught figuratively "taking a hitch" from the trolley, and so, when an electric car would appear in the distance, the metal hook would be detached, the fish pole unjointed and Mr. Willard would appear to be innocently engaged in tinkering with the running gear of his vehicle. Report fails to say whether or not he ever received a bill from the trolley company for current.

BOLD DESIGNS FOR TROPHIES

We present in the accompanying illustration the "Cup of the City of Venice," which has for several years been the trophy for the possession of which the rowing clubs in Italy have been contending mutually. Its design is so bold and unusual as to attract uncommon attention wherever exhibited and also in illustration; and offers a valuable suggestion for trophies to be designed in this country as prizes for motor vehicle contests.

A bold design is undoubtedly one of the chief requirements for such purposes, as the winners of contests are entitled to

The City of Venice Cup.

all the publicity that it is possible to obtain, and the designs of trophies are usually so commonplace and conventional that publishers see no reason for illustrating them.

TEACHING THE PUBLIC TO DRIVE

BIBLE CLASS FOR AMATEUR DRIVERS.—FLAT RATES FOR THEATER PARTIES.—TWO COMPETING CITY CARRIAGES.—ACTIVITY IN MOTOCYCLE BUILDING.

Boston, Nov. 4.—With twenty hansoms and the same number of other vehicles in use, including broughams, stanhopes, victorias, runabouts, phaetons and golf traps in commission, Superintendent Mefkell of the New England Electric Vehicle Company says he cannot meet his calls. The cabs are hustling all day and far into the night and the company has just opened a six-cab sub-station in Cambridge, to be followed by others in different parts of the suburbs.

Rates Virtually Low.

While it costs half a dollar for the shortest ride a person may take, the electric cab fares are substantially lower than the horse cab rates, as, for the purposes of the company, the city limits are considered all that portion of the town north of and including St. Mary's street, the Parkway, Longwood avenue, Roxbury station, Eliot, Dudley and Magazine streets. So for fifty cents one may ride from the Northern union station to the streets named, over three miles as the crow flies, while the antediluvian herdics charge a dollar for similar transportation and the jehus of the prehistoric hacks are allowed to mulct their passengers in double that sum.

Carriages By the Month.

One innovation that has met with ready public response is the establishment of a flat rate of $1.50 for taking two persons from their home to the theater and calling for them after the performance. The hour rate is $2. Hansoms and broughams will be rented by the month for private use for $180 to $200 a month. This large rental does not appear excessive when everything is taken into consideration. As far as possible consistently with the service required, the same driver will be furnished, if so wanted, and he must be ready for his call at almost any hour. The vehicle rented will be kept and cared for at the company's central station and thus one trouble for people who have money to spare is done away with.

The company has also provided for catering to that disease known in Boston circles as "motorene." Symptoms of the same disease have been noticed all over the country and the affliction, though perhaps not known by this scientific and Bostonese title, is familiar in its various forms to all readers of The Motor Age.

Amateurs Waste Current.

To meet this want, the company has taken a somewhat radical step and has provided for instruction in the handling and operation of its light vehicles to be given by its best drivers at the usual rate of fare for the time occupied. Thus the sufferer from "motorene" may learn how to run an electric runabout for $2 for each hour's lesson and when he is proficient, may be turned loose to ride alone at the same rate. Although this branch of the company's income has just been announced, the company has had a large number of applications for lessons, and Supt. Mefkell has established what he calls his Bible class for amateur drivers. It is located on Warren avenue, a quiet, wide street close to the company's central station on Tremont street.

So every pleasant morning the sidewalks of Warren avenue have their quota of spectators who are seeking amusement at the expense of the learners. Mr. Mefkell says that the hardest thing to teach the public is economy of power. They do not seem to know how to keep the carriages going with the smallest required amount of current. They start off with a jump, using the full strength of the current, and then jam the brake on hard at the first sign of trouble, using up the energy in heat at the brake drums. Care-

ful watching of batteries and cyclometers has proved that the green driver, be he professional or amateur, uses twice as much electricity as the experienced "hand."

Champions the Suspension Wheel.

In a couple of weeks at most, the city of Boston will have another horseless carriage in operation. The carriage has just been received from the Woods Electric Motor Vehicle Company of Chicago. It is an electric runabout, weighing 700 pounds ready for the street. It will be used by Wire Commissioner Flood in his work for the city. A lively controversy is in progress in the city hall automobile kindergarten over the respective merits of bicycle wheels with pneumatic tires and wooden wheels and solid tires. The Stanley wagon now in use has bicycle wheels and in its work for the building repair department of the city government, has given such excellent service that Supt. Logue of the department, who has developed into a speed man, says solid tires can never beat his wheels. City hall is talking of a race between the two wagons as soon as the new carriage gets out of the city's electrical construction shops. Supt. Cottle of the electrical division will have charge of the carriage until Supt. Flood becomes an accomplished driver.

High Power for Tandem.

Peter J. Berlo, formerly one of the best-known of the bicycle contingent, a record holder and later a successful builder of bicycles, including the first quads and quints for pacemaking purposes built in America, is building himself a six-horsepower gasolene carriage. Mr. Berlo is an enthusiast on gasolene and during the racing season just closed had on the track a pacing tandem equipped with a six-horsepower Duryea motor, which went so fast even he was scared. Every year Peter builds himself a larger gasolene yacht, his latest being nearly 60 feet long. His carriage will contain many new ideas and its appearance is eagerly awaited by the Boston class. As he is an expert in tubular construction, his carriage platform will be worthy of mention later.

Anna Held's Quad.

There is great activity at the Waltham Mfg. Co.'s factory at Waltham, where De Dion motors are being built into tricycles as fast as they can be obtained. The first Orient motor tricycle made its appearance this week and so far has given the best of satisfaction to President Metz. The company's machines figure at two of the local theaters. Anna Held, who was here last week, made her entrance on the stage on the front seat of a quadricycle and next week the Beaumont sisters in the "Man in the Moon" at the Columbia theater will ride in upon a full nickeled quadricycle, one of them, wife of Henri Fournier, riding on the rear seat and managing the motor.

AUTOMOBILE CLUB'S PARADE

New York, Nov. 5.—Despite the discouragement of a bleak November afternoon, the initial parade and run of the Automobile Club of America was pulled off promptly as per programme in every detail from the luncheon at the start to the bite by the way and the merry run home toward night fall. Fully an hour ahead of the starting time, set for two o'clock, automobiles of every variety, from the light speeding tricycle all through the line of victorias, phaetons, hansoms, runabouts and surreys, down even to a delivery wagon began to gather around the Waldorf-Astoria in Astor Court and on Thirty-third street, while enthusiastic automobilers flocked into the small ball room near the main entrance, where they were received by the officers and a luncheon was served preliminary to the run. Besides the members owning the vehicles which were to parade, other members were present together with a goodly sprinkling of invited guests. Most of the owners had their parties of guests already made up. Others offered fellow

members and guests unoccupied seats and quite a number were disposed of on vehicles very considerately loaned for the occasion by various manufacturing concerns.

When President Avery D. Andrews started the run at the head of the procession in his electric victoria with Jefferson Seligman as his guest there were some forty vehicles in line, seating in all probably not far from one hundred and twenty people. In many of the carriages were ladies, who honored the occasion with as elaborate toilettes as they would present at a parade of the Coaching Club. The parade moved along Thirty-third street, down Madison avenue around Madison Square, up Fifth avenue, across to Morningside Park, thence up the Riverside to Claremont. Rather a rapid pace was set, but, notwithstanding the necessary dodging in and out on the crowded avenues, the line was well preserved and presented a creditable parade, which attracted wondering attention from the throngs on the sidewalks.

At Claremont an afternoon tea was served and the automobilers chatted in knowing fashion of various motors and swapped experiences. After the tea the run returned down the Riverside and Fifth avenue to the Waldorf, where it disbanded.

This is but the beginning of a series of runs, which will be promoted with considerable frequency. A parade on even a larger scale than the present one will form one of the features of outdoor fashionable display next spring.

The following had vehicles in line and the character of the motor is set forth as far as could be obtained by your correspondent:

General Avery D. Andrews, electric Victoria; Amzi L. Barber, steam; F. S. Battershall, electric; J. A. Blair, electric break; Albert C. Bostwick, steam; Curtis P. Brady, electric runabout; George F. Chamberlain, gasolene; Alexander Fischer, gasolene; C. S. Field, gasolene; W. H. Hall, gasolene; Alan R. Hawley, electric phaeton; Captain Homer W. Hedge, steam; Eleazer Kempshall, electric hansom; O. L. Krieger, gasolene; Whitney Lyon, electric; E. H. Lyon, steam; J. C. McCoy, gasolene; Thomas L. Proctor, electric; Frank S. Pusey, electric surrey; A. L. Riker, electric; George Isham Scott, gasolene; Albert R. Shattuck, electric hansom; A. H. Whiting, electric; W. E. Burroughs, electric; Peter Fisher, gasolene; Dr. Zabriski, gasolene; Clarence W. Wood, Alphonso Pelham, W. S. Martini, Mr. Marcus, Winslow E. Buzby, A. E. Chandler, E. W. Curtis.

MOTORING NOT FOR THE LAZY

THE MENTAL STRAIN OF DIRECTING AN AUTOMOBILE OVER ROUGH ROADS MORE FATIGUING THAN SELF PROPULSION.—DECREASES SOMEWHAT BY HABITUAL DRIVING.

A conversation was recently overheard, between Lyman, an old bicycle rider, who had recently become possessed of a gasolene tricycle, and his friend Abbott, who is still true to his safety. Lyman enlarged on the virtues of his motocycle at length. Finally Abbott interrupted him to ask if he were going to forsake the bicycle, and the following dialogue ensued:

Lyman—"Yes, Charlie, I am going to give it up. I never thought that I would, but the time has come when I feel that I can no longer patronize the bare bicycle. It is passe."

Abbott—"I am afraid you are getting lazy in your old age. Have you forgotten how you used to enthuse over the delightful exercise you found in wheeling?"

L.—No, I am not getting lazy. You have never ridden a motocycle or you would not say it. Do you remember your first bicycle rides?"

A.—"Yes."

L.—"You remember how utterly fagged out you were after going a little distance?"

A.—"Of course."

L.—"You remember that we decided that it was not the fatigue that came from the exercise of the muscles, alone,

but was principally caused by the tense mental strain?"

A.—"Yes. That is an old story. Every novice goes through that experience."

L.—"Well, the old bicycle rider is a novice when he first gets on a motocycle. The excitement caused by the rapid speed over all sorts of roads, the novelty of riding on three wheels instead of two and of not being able to pick the road in the same careful manner, and, above all, the attention that the various parts of the mechanism require, conspire to produce a mental strain that more than counterbalances the waste of muscular tissue while riding a bicycle. At the end of the ride one is as tired as if he had used a bicycle."

A.—"I suppose there must be something in what you say."

L.—"Something? Everything! Mark my words. You will have a motocycle some day. When you first ride it, just notice how tired you get. You will find that your first fifty miles on the self propelled bicycle will tire you more than your last fifty on a bicycle did!"

A.—"Fifty miles in a buggy tires me more now than fifty on a bicycle!"

L.—"And the fifty in the motocycle will tire you just as much as fifty in a buggy."

A.—"But doesn't the mental strain diminish and finally vanish altogether as you become used to your motocycle?"

L.—"It does diminish, and, riding over boulevards or any good roads at a moderate pace, it vanishes, as far as I am able to say to the contrary—at least the mental strain is scarcely perceptible—but when going at high speeds or over poor roads it is very much in evidence."

A.—"So it is on a bicycle, even with the old timer."

A True Athletic Sport.

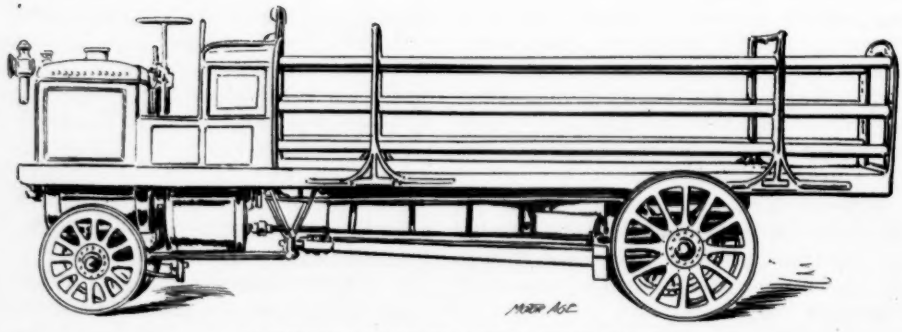
L.—"To be sure. I do not maintain that I would not rather undertake a double century on a motocycle today than on a bicycle, or any long ride for that matter, but you attacked me on the grounds of my forsaking my bicycle for the motocycle because I was lazy. I have been trying to show you that even the motocycle is not for lazy men. I merely wish you to understand your error. Now, instead of taking a ten-mile ride on a bicycle and feeling that I have had enough exercise for the day, I take a twenty-five mile spin on my motocycle and feel just as tired and have imbibed a far greater amount of ozone."

A.—"So you plead not guilty to having forsaken athletic sports since you have given up the bicycle?"

L.—"Indeed I do. I believe that the only form of locomotion that does not involve fatigue is the kind we employ in journeying to our castle in Spain."

A.—"Perhaps you are right, old boy. Good bye."

L.—"Of course I am right. Good bye."



CANNSTATT-DAIMLER MOTOR BEER WAGON.

ORDINANCE TO OPEN ALL PARKS

THE SQUABBLE OVER ADMITTANCE TO CENTRAL PARK, NEW YORK, RESULTS TEMPORARILY IN FAVOR OF THE AUTOMOBILISTS.

New York City, Nov. 1.—An ordinance to admit automobiles to all parks in New York city has been introduced in the Municipal Council of that city by Councilman Stewart M. Brice and was referred to the committee on parks. It reads as follows:

Section 1.—It shall be lawful to use self-propelled pleasure vehicles, commonly known as automobiles, on any of the streets, avenues, boulevards, or drives of the city of New York, provided that any person driving or operating a self-propelled pleasure carriage through any of the drives, avenues or boulevards of the city of New York shall bring the said vehicle to a full stop at request of or signal from a driver of a vehicle drawn by a horse or horses, should said horse or horses show signs of alarm at the approach of said vehicle.

Section 2.—Any person using a self-propelled pleasure vehicle on any of the streets, avenues, boulevards or drives shall be required to carry on such vehicle within one hour after sunset and until one hour before sunrise two lights, each of sufficient illuminating power to be visible at a distance of at least two hundred feet; also a suitable alarm, either by bell or other sufficient means, and a signal shall be given by sounding said bell or alarm or otherwise upon approaching or crossing any street or avenue, and no person using a self-propelled pleasure vehicle or automobile shall go at a rate of speed greater than eight miles per hour. Any violation of this ordinance shall be punishable as a misdemeanor.

Buzby's Test Case Adjudged.

While the ordinance was being disposed of in the council the test case of the Park Board against Winslow E. Buzby was being heard before Police Judge Olmsted. This case was forced by Mr. Buzby, a member of the Automobile Club, by attempting to drive an automobile in Central Park against the verbal orders issued by President Clausen of the Park Board, enjoining it upon park policemen to prohibit such entrance.

Mr. Buzby was represented in court by Charles M. Beattie, a lawyer, and had the moral support of George F. Chamberlin, vice president of the Automobile Club of America, and a member of its Law Committee; Whitney Lyon, Alfred C. Bostwick, Dr. E. C. Chamberlin, H. L. McGee and A. L. Riker, all members of the Automobile Club, who were present. They all were ready to testify that an automobile was more tractable than any team.

The prosecution attempted to maintain that automobiles were not pleasure carriages in the eyes of the law and that the Park Board was within its rights in excluding them from Central Park.

"'It is absurd," said Police Captain England of the park service, "to call an automobile a carriage, for the Carriage Builders' Association refuses to admit men who make automobiles." This produced a laugh, but nothing further.

Park Board Has Authority.

It was suggested that a formal complaint should be drawn up, but the magistrate declared this unnecessary, as he had looked up the law and had found that the Park Board had the right to pass an ordinance prohibiting automobiles from any or all parks, or portions of the same, but that no such ordinance had been passed, and that, on the other hand, it was not within the power of any officer of the Board to exclude automobiles by mere verbal order, until the required ordinance had been passed. The magistrate ruled that "Any one in a pleasure carriage, whether it is an automobile or a vehicle drawn by horses, has a right to enter Central Park, unless the Board enacts an ordinance excluding them, which it has not done."

Captain England then declared that he would arrest any driver of an automobile that attempted to enter Central Park with it, the judge's finding notwithstanding.

Will Admit All or None.

President Clausen's side of the case is summed up in the following remarks with which he is quoted:

"We have given careful consideration to the question of admitting automobiles

in Central Park, and we are not yet ready to let down the bars. We have decided on one thing, however; that is, that we shall not issue a permit to any individual, but shall let all in or none.

"Now, the men who are testing our right to act are inconsistent. Mr. Lyons called upon me a few days ago and asked for a permit. If they needed to have a permit they must admit that we had power to exclude them. They have invited me to be a member of the Automobile Club, and have asked me to take rides with them in their automobiles, but I have declined both propositions as I want to be free from bias. While they have asserted that their own automobiles are perfect, they have admitted that there are others which have exhausts and make a noise when in operation. Now, we cannot discriminate, and must let in all kinds if any.

"I assert that we have the finest horses in the world in Central Park, and to let in machines that would frighten them would not be right. A horse can see an automobile advancing in a public street and not be frightened, but the same horse would take fright if one of the automobiles suddenly appeared coming around a turn in a park drive.

"These people seem to be making their fight on our park rules. If our rules do not cover the case, there is nothing to prevent our meeting and passing new ones."

Test Case Not Club's Work.

"While Mr. Buzby and Mr. Lyon are members of the Automobile Club of America, which was recently organized at the Waldorf-Astoria, the club has taken no action on the matter of the exclusion of automobiles from Central Park. Many members of the club approve of the course taken by Mr. Buzby, but I learned yesterday that the president and secretary of the club do not indorse the drastic steps that have been taken."

VEHICLE TESTS BY CLUBS

One of the functions of the Automobile Club of England is to issue certificates of performances of motor vehicles from which the public at large may obtain an approximate idea of the work of which each vehicle is capable.

While these trials are not by any means exhaustive and the certificates leave much to be desired in explicitness, the system of making such trials a matter of public record is nevertheless a step in the right direction and one which is capable of development for the good of all. So long as these trials have reference mainly to the speed of which the vehicle is capable under varying conditions, their importance is of course small for all prospective purchasers who have the general utility of the vehicle in view, but when the system shall have been once adopted by American automobile clubs it will be only a step to more complete tests.

As an example of the present form of the English Automobile Club's certificates one issued for a Benz Ideal is herewith produced:

AUTOMOBILE CLUB ONE HUNDRED MILES TRIAL CERTIFICATE.

Benz No. 1 Ideal (1898 pattern)—three horse power, one cylinder, petrol car, electric ignition, seats for two, solid rubber tires. Manufactured by the Benz Motor Co., of Mannheim, Germany, and entered by their English agents, Hewetsons, Ltd., 6, Dean street, South, London, W. C.

Route.—Road to Oxford. From second milestone to fifty-second milestone (outskirts of Oxford) and back via Uxbridge, Beaconsfield, High Wycombe, and Stokenchurch.

Weather.—Good.

Roads.—Very good, except Dashwood and Aston Hills, which were loose and heavy and muddy respectively.

Stops.—None.

Average speed while running up to the legal limit, twelve miles per hour; speed up Red Hill (a total rise of 100 feet in 1,075 yards, and including 503 yards of a gradient of 1 in 21.5), 8.75 miles per hour; speed up Dashwood Hill from thirty-third to thirty-fourth milestone (a total rise of 241 feet in 1 mile, and including 275 yards of a gradient of 1 in 21.7, and 600 yards of a gradient of 1 in 11), five miles per hour; speed up Aston

Hill on the return journey over a distance of 1 mile 1,100 yards (having a total rise of 386 feet, and including 1,910 yards of a gradient of 1 in 21), 3.52 miles per hour.

HARRY J. SWINDLEY.
Hon. Official Timekeeper.
C. JOHNSON,
Secretary Automobile Club.

THE SPORT IN PHILADELPHIA

Philadelphia, Nov. 4.—The recent ruling of the Fairmount Park Commission allowing the running of automobiles over certain specified driveways in that popular pleasure ground has resulted in a wonderful increase in the number of motor-propelled vehicles hereabouts. On Sundays especially the owners of motor vehicles seem to be making up for lost time by putting in the entire day at the "sport"—for sport it certainly is. Even the electric cabs, which are supposed to be on duty all day long at various depots and stations throughout the city, are pressed into the service of pleasure parties, and the incoming traveler who may disdain the plebeian trolley is compelled to fall back on the horse-propelled coupe or foot it to his destination.

NEW MULTI-MILLION COMPANY

G. Alexander Hamilton and Henry F. Lowe are organizing a $5,000,000 company to be known as the Buffalo-Rochester Electric Power and Automobile Company, the object of which will be to secure control of as many valuable motor vehicle patents as possible and to develop the same at a factory in Buffalo to such degrees of practicability that they may be resold to automobile manufacturers.

One of the most important patents from which the company reckons to obtain financial results has reference to a primary electric battery with motor, in which, it is stated, the motive power may be renewed by pouring water into the battery tank, together with a "depolarization powder."

SAVED BY LIGHT OF AUTOMOBILES

A rapid and destructive fire early on Saturday morning, October 28, came within an ace of destroying the local station of the Pennsylvania Electric Vehicle Company of Philadelphia. Hard work by the firemen, however, saved the structure. At the beginning of the fire the electric light current, supplied by a local company, was turned off, and in the darkness much trouble was experienced in getting out the score of vehicles. A cool-headed employe, however, bethought him of the electricity stored up in the vehicle batteries, and making the attachments to one of them, soon had plenty of light to expedite the work of removal.

HEARSES IN MEXICO CITY

In Mexico City the street railway company makes a specialty of funeral cars and most of the Mexican funerals are conducted by rail, so in that city at least there should be no prejudice against an electric automobile hearse.

AUTOMOBILES FOR PORTO RICO

James O. Hughart and E. W. Fitzgerald, of Grand Rapids, and C. R. Marquardt, of Mt. Clemens, Mich., are promoting a scheme for establishing an automobile line to compete with a railroad in Porto Rico.

INVENTORS AND CAPITALISTS

THE BIAS OF CAPITAL IN FAVOR OF APPARENT MONOPOLIES.—CAPABLE MECHANICS WHOSE INVENTIONS ARE NOT FULLY DEVELOPED FORCED TO PLOD ALONG WITH SCANT MEANS.

With as many thousands of people as there are prepared to buy automobiles, as soon as they see a practical vehicle at any price that is within reason, allowing, of course, for a liberal profit, it seems strange that there are actually so few vehicles to be had. It is not for lack of inventive genius, necessary to overcome the numerous difficulties, nor yet that capital hesitates to seek employment in the self-propelled vehicle industry, but rather because of the difficulty of getting capital and mechanical genius together.

Investments at Fancy Figures.

It is scarcely necessary to say that the average clever mechanic is seldom any too well equipped with this world's goods. The kind of brains that enables a man to accumulate money and the kind that invents do not seem to thrive in the same cranium. Hence it is not strange that the mechanical man finds himself hampered in carrying on his experiments by lack of funds. Funds he wants and funds he is always seeking.

Capitalists, on the other hand, are always on the lookout for profitable investments and many of them have been ready to recognize the enormous opportunities that exist for making money in the automobile trade. Capitalists, however, are a fearful set and frequently lay too much stress on the danger of competition. They are looking for monopolies and when one of them finds an apparent monopoly, he is ready to invest at fancy figures—often to his sorrow. Evidences of this tendency have been largely shown in the automobile industry.

Nevertheless there are capitalists who are willing and ready at this moment to invest considerable sums in the automobile business that depends merely on the excellence of the product, combined, perhaps with a few patents which tend to add to the ease of production and to the general excellence of the product.

Pure Progress Not Salable.

There are plenty of opportunities for capitalists, so disposed, to find remunerative fields for investment. The difficulty is to distinguish between the really remunerative opportunity offered by the practical mechanical man and the one which will prove merely a hole into which to pour money. In cases where the mechanical men are able to show a complete, practical vehicle, which meets the demand for a stylish economical vehicle, the capitalist does not hesitate long. But there are few or none such that are not already in the hands of companies that are pushing production to the utmost.

It takes careful and intelligent experimenting to produce such vehicles, and, moreover, it costs money to carry on these experiments, money in amounts which are usually beyond the limits of the inventor's pocket book. His idea may be excellent and the results practical and tangible as far as he is able to go. He realizes that he has made decided progress and feels that nothing except the lack of money stands between him and complete success. The trouble is that he is unable to demonstrate to the unmechanical capitalist that the incomplete work that he has in hand represents practical progress.

The situation was aptly illustrated by an inventor who possesses more than twenty patents on automobile construction and who has constructed a number of practical vehicles for customers and has furnished the engine and driving gears to others. He has at various times interested capitalists to the extent of getting them to investigate.

Unappreciated Veracity.

"Money, money, money!" he exclaimed.

"That is the cry. It takes money to experiment. There is plenty of it to be had by the man who can show a completed practical vehicle. I can show a vehicle that will compare favorably with anything that I have seen, although it is not up to the standard claimed for some of the vehicles on the market. Neither will it accomplish the results that some of these vehicles can accomplish, under favorable conditions, while they are new. It will, however, stand the test of time and will work economically and reliably. Still it is not perfection and I see the necessity of further experimenting before I consider it ready to serve as a sample of the approximately perfect marketable product.

"If I tried to get the backing to make this vehicle in quantities and sell it, I could get the money. But when I say that this vehicle is not perfect and that it is necessary to spend time and money to make it so, and point to my improvements in their incomplete form, the moneyed man hesitates. He wants something that he thinks is perfect and wants to begin manufacturing on a large scale at once. This might bring temporarily satisfactory results, but would not result in a permanent and stable business. The capitalist who will back the practical inventor by standing the initial expense for experimenting and be ready, when the time comes, to furnish money to carry on the business on an extended scale, will be amply repaid in the end.

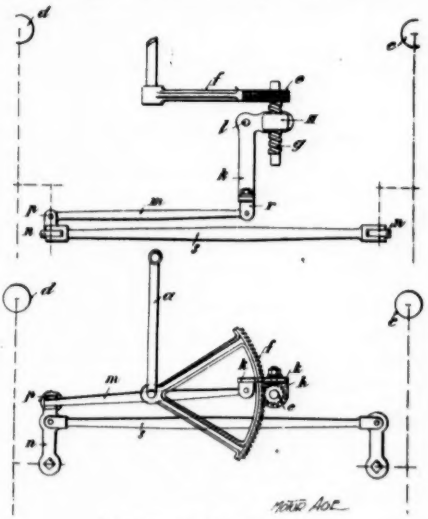
Confident Within Himself.

"I have been unable to find a man who will back me on this basis. Such being the case, I prefer to work along as I have been working and not attempt to organize a company to make and sell my vehicles until I have satisfied myself that I have the article that is going to prove a permanent success. Without backing, this will be a comparatively long task but I will accomplish it. I may be so late that I will lose a large part of the benefits that are sure to accrue to the makers who are early in the field. Still I would lose no more than I would by allowing an imperfect vehicle to be put generally on the market."

The statement of this engineer gathers force from the fact that he is a really practical man. He has already produced results and is still producing them. He has work in progress that shows to the mechanical man that he is making pronounced practical progress. If he were to find the man who would stand the comparatively small cost of completing the experiments in the smallest possible time, The Motor Age feels assured that the engineer's statement that the capitalist would be fully repaid, would be justified.

ONE-WAY STEERING LEVER

Jeane Canellopoulos of Courbevoye, France, has obtained American patent for a "locked" or "one-way" steering transmission gear of the design shown in the



Canellopoulos' S eering Gear.

accompanying illustration in front and plan views.

"It is easy to understand," says this inventor, "that all the levers employed up to the present time, whatever be their shape, suffer from the inconvenience that when the steering-wheels meet with an obstacle the steering-rod is violently shaken or twisted, from which many serious accidents have resulted. Further, it is impossible for the driver in charge of the vehicle to rest for a single instant, for if he did so in releasing the steering-handle the vehicle will no longer be directed."

The operating of the device he describes as follows:

By turning the handle b in one direction it

will turn the sector f with it, which in its turn causes the toothed wheel e to turn, thereby rotating the screw g in the nut h. The lever k thereupon rises or descends, and this movement is transmitted to the road-wheels by means of the levers m and n. If one of the wheels d or c meets with an obstacle, this obstacle will turn the wheel to one side or the other, and if the lever a were directly connected to the wheel, as is the case in the present device, the wheel having been turned aside by the obstacle would involve the other through the connecting rod s; but as I have interposed the screw g this screw prevents the lever k from communicating to the lever a the least movement, and if the wheel encounters any obstacle the effect of the latter will not be transmitted to the steering handle. On the other hand, if the driver is steering in a straight line it is not necessary for him to keep his hand continually on the handle b; but he can leave it free, for with this device the wheels will not deviate from the direction set so long as the conductor does not move them for that purpose by means of the handle b.

MOTOR AND VEHICLE SPEED

On the subject of regulation of gasolene motor speed the Motor Car World of London neatly sums up the various methods in use.

The number of revolutions per minute of the motor shaft under a given resistance may be varied either by governor or by hand, it says, by:

(1) Regulating the amount of explosive mixture admitted to the cylinder.

(2) Varying the quality of the explosive mixture.

(3) Advancing or retarding the time of the explosion (usually employed with electric ignition).

(4) Cutting off the supply of explosive mixture or carburetted air during a certain number of revolutions.

(5) Preventing the exhaust valve from closing during a certain number of revolutions.

The power of the motor is transmitted to the driving wheel or wheels of the vehicle either by gearing or by belts. Both have their advantages and disadvantages, and at the present time it would be presumptuous to venture an opinion as to which will obtain supremacy. The advantage of transmission by gearing is its positiveness, while its disadvantages are noise, cost of renewal when worn, and the necessity of using clutches. The advantages of belt driving are its noiselessness, comparative cheapness of renewal, and the absence of clutches, while its disadvantages are the tendency of the belts to stretch through wear, and to vary in length through climatic influences, which causes slip, and therefore loss of driving power.

The speed of the car in relation to the speed of the motor is usually regulated either by means of change wheels or by means of bands and pulleys or by both in combination, but many contrivances based on other principles are being experimented with, as all the change-speed devices at present employed leave much to be desired.

REPORTS OF FOREIGN CONSULS

The German consuls in New York and Chicago have reported to their governments that American motor vehicle manufacturers are working mostly for export trade, as, owing to the poor roads, the field for automobiles in United States is confined to the towns. They predict that the American manufacturers by reason of their excellent machinery and materials will soon be formidable competitors for the European motor vehicle trade.

NEW PEORIA MANUFACTURE

Peoria, Ill., Nov. 2.—Frederick Stevens, the inventor of a motor vehicle has sold his patents and one vehicle already built to J. C. Birket for $3,300. Mr. Birket's faith in the ponderous machine is unshaken, notwithstanding the failures that have so far attended all attempts to make it practicable. He is at present engaged in the formation of a company for the manufacture of the cars, and will soon commence the repair and perfection of the wagon.

THE ELECTRIC VEHICLE STOCKS

Illinois Electric Vehicle Transportation stock went further down last week—from 4 asked to 3¾ asked. Electric Vehicle stock closed October 29 at 74 asked for common and 95 asked for preferred.

AUTOMOBILE CLUB IN PHILADELPHIA

The Liberty Automobile and Cycle Club has been formed in Philadelphia with headquarters at 1425 Diamond street and upward of a half-hundred members. About twenty of these own motor vehicles.